



OPIOID EPIDEMIC

SUSIE WIET, MD

SAFETY NET SUMMIT

OCTOBER 4, 2016

BACKGROUND AND DISCLOSURES

Susan Wiet, MD

- Adjunct Volunteer Faculty, Assistant Professor
University of Utah – Department of Psychiatry
- Certifications: Adult, Child/Adolescent Psychiatry, Addiction Medicine

Contact Information swiet@susiewietmd.com

Disclaimers

I have no affiliations with any financially-interested company.

I have no known royalty, stock or financial interest in any industry-sponsored company.

I do not serve any position in any financially-interested company.

OBJECTIVES

1

Learn about the history of the opioid epidemic

2

Know the current trends contributing to the opioid epidemic

3

Understand risks of psychiatric symptoms that contribute to opioid misuse and dependence

HISTORY OF THE OPIOID EPIDEMIC

Joint Commission first established standards for pain assessment and treatment in 2001

- **widespread problem of under-treatment of pain**

JC requires policies regarding pain assessment and treatment

- **conduct educational efforts to ensure compliance**

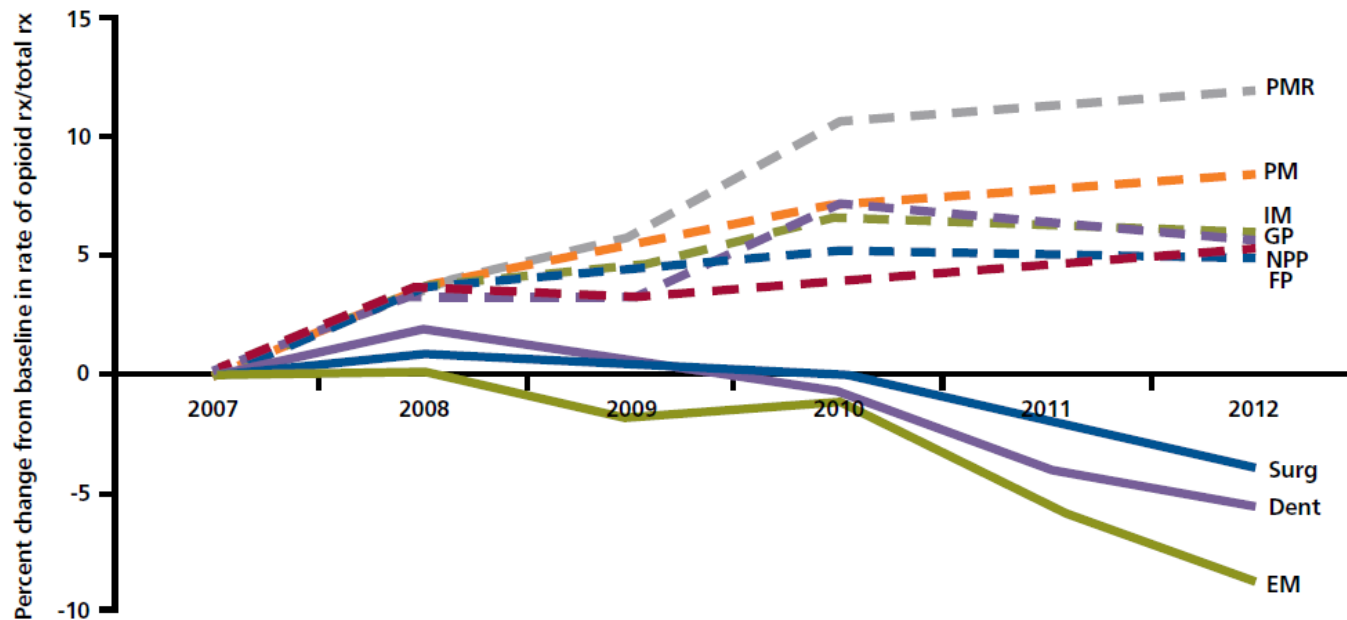
JC does not require the use of drugs to manage pain

- **standards do not specify which drugs to be prescribed**

HISTORY OF THE OPIOID EPIDEMIC

Rx Opioid Prescribing by Medical Specialty, US, 2007-2012

Family Practice Internal Medicine General Practice
Emergency Medicine Non-Physician Prescribers Surgery
Physical Medicine/Rehab Pain Medicine Dentistry



American Journal of Preventive Medicine. Trends in Opioid Analgesic-Prescribing Rates by Specialty, U.S., 2007-2012. Sept. 2015; 49(3):409-13.

200,000,000
prescriptions in 2013
(40 mil in 1993)

CURRENT TRENDS: OPIOID EPIDEMIC



For every **1** death there are....



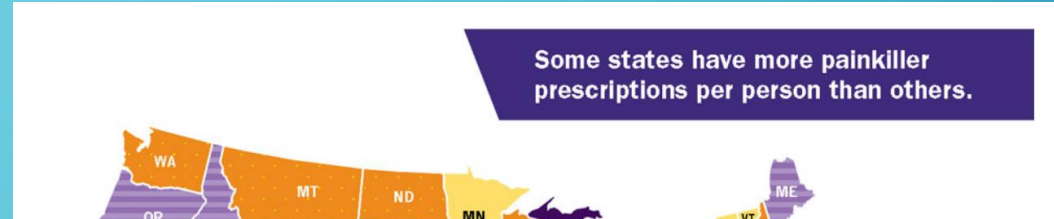
10 treatment admissions for abuse^a

32 emergency dept visits for misuse or abuse^a

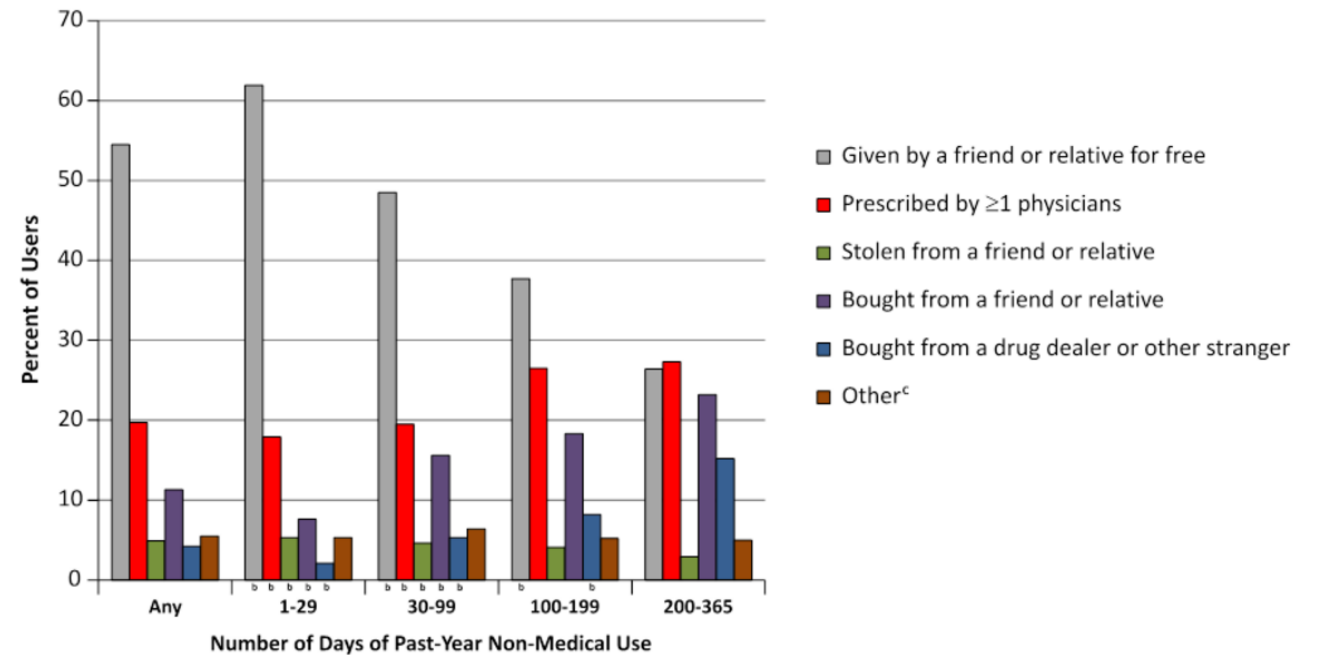
130 people who abuse or are dependent^a

825 nonmedical users^a

CURRENT TRENDS: OPIOID EPIDEMIC



Sources of Prescription Painkillers Among Past-Year Non-Medical Users^a



^a Obtained from the US National Survey on Drug Use and Health, 2008 through 2011.⁵

^b Estimate is statistically significantly different from that for highest-frequency users (200-365 days) ($P < .05$).

^c Includes written fake prescriptions and those opioids stolen from a physician's office, clinic, hospital, or pharmacy; purchases on the Internet; and obtained some other way.

SOURCE: Jones C, Paulozzi L, Mack K. Sources of prescription opioid pain relievers by frequency of past-year nonmedical use: United States, 2008–2011. JAMA Int Med 2014; 174(5):802-803.

CURRENT TRENDS: OPIOID EPIDEMIC

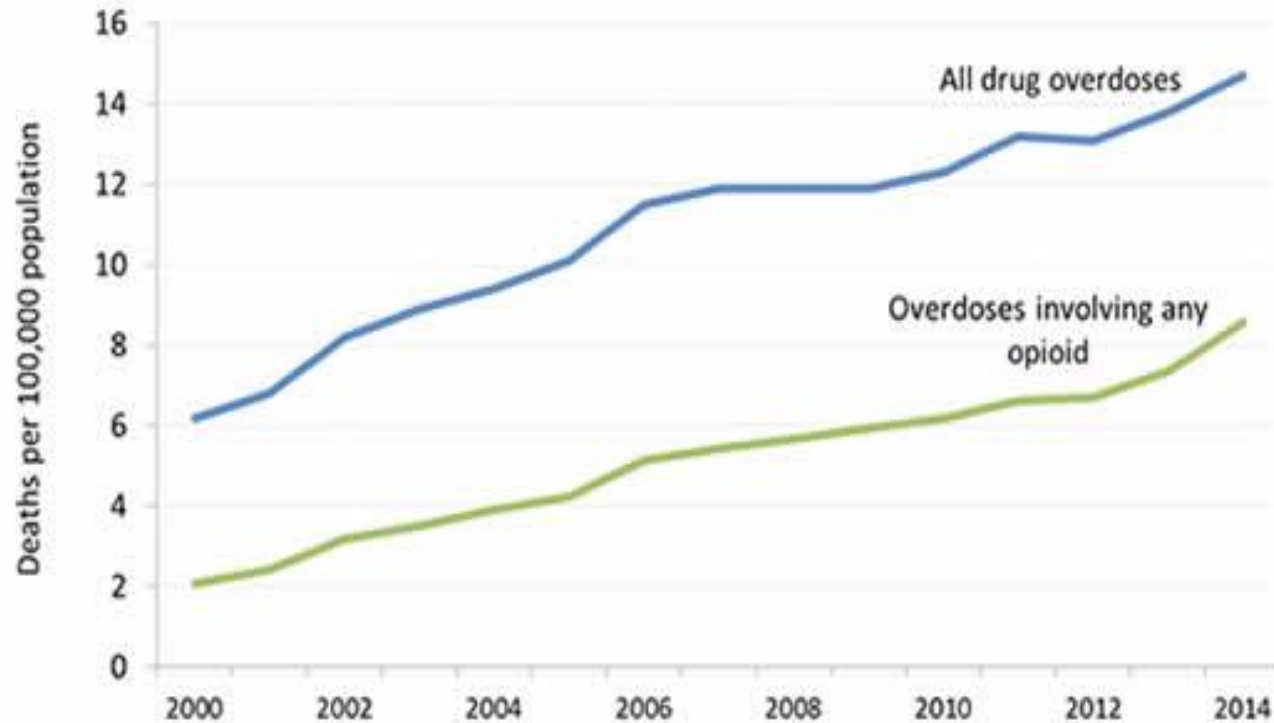
More than
3 out of **5** drug
overdose
deaths involve
an **opioid**

drug overdose
are up among
both men and
women, all
races, and
adults of nearly
all ages

CURRENT TRENDS: OPIOID EPIDEMIC

Opioid overdoses driving increase in drug overdoses overall

Age-adjusted rate of drug overdose deaths and drug overdose deaths involving opioids, United States, 2000-2014



SOURCE: Centers for Disease Control and Prevention. Increases in Drug and Opioid Overdose Deaths – United States, 2000 to 2014. MMWR 2015.

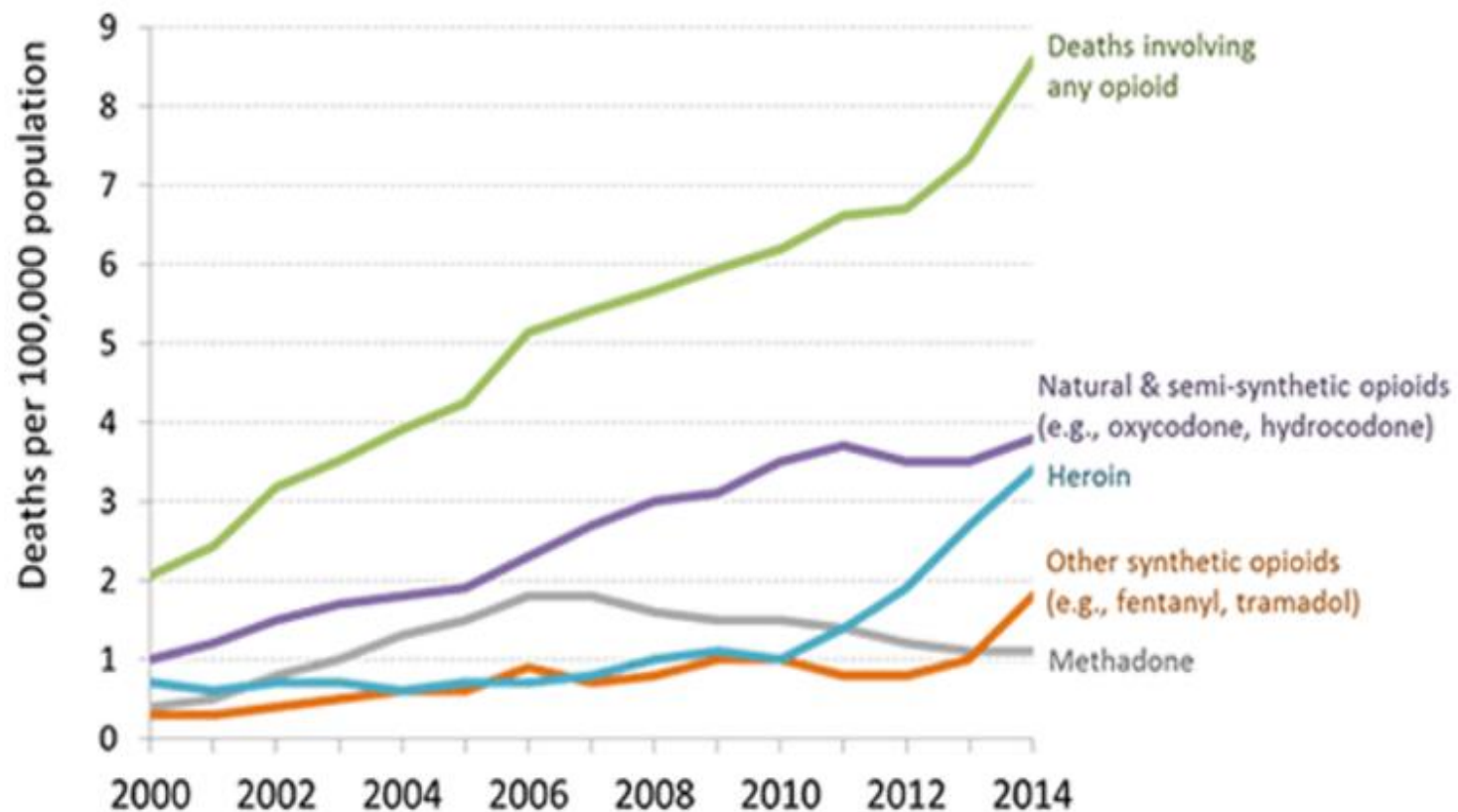
www.cdc.gov/drugoverdose



CURRENT TRENDS: OPIOID EPIDEMIC

Opioid overdoses driving increase in drug overdoses overall

Drug overdose deaths involving opioids, by type of opioid, United States, 2000-2014



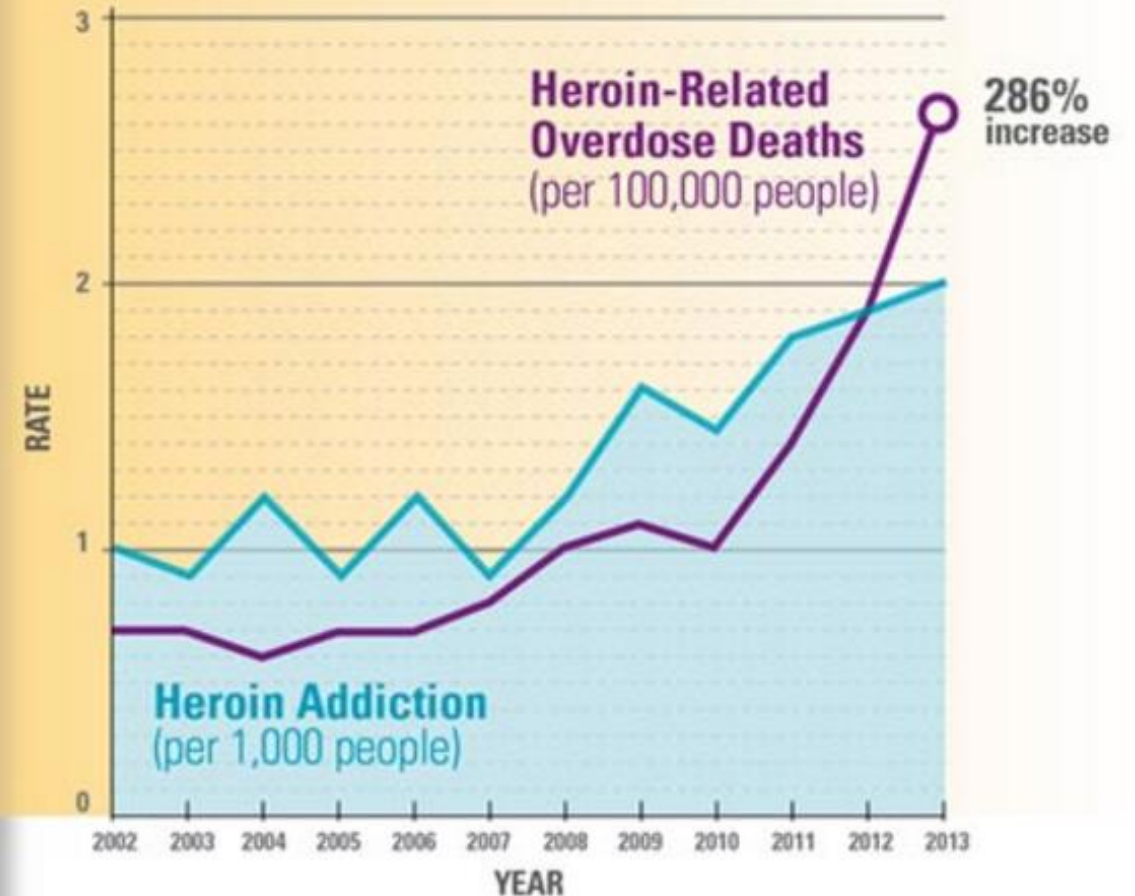
SOURCE:
Centers for Disease Control and
Prevention. Increases in Drug and
Opioid Overdose Deaths –
United States, 2000 to 2014.
MMWR 2015.
www.cdc.gov/drugoverdose



Heroin Use Has INCREASED Among Most Demographic Groups

	2002-2004*	2011-2013*	% CHANGE
SEX			
Male	2.4	3.6	50%
Female	0.8	1.6	100%
AGE, YEARS			
12-17	1.8	1.6	--
18-25	3.5	7.3	109%
26 or older	1.2	1.9	58%
RACE/ETHNICITY			
Non-Hispanic white	1.4	3	114%
Other	2	1.7	--
ANNUAL HOUSEHOLD INCOME			
Less than \$20,000	3.4	5.5	62%
\$20,000-\$49,999	1.3	2.3	77%
\$50,000 or more	1	1.6	60%
HEALTH INSURANCE COVERAGE			
None	4.2	6.7	60%
Medicaid	4.3	4.7	--
Private or other	0.8	1.3	63%

Heroin Addiction and Overdose Deaths are Climbing



2014: **fentanyl-related** unintentional overdose deaths, almost a 500% increase

Table 1. Characteristics of the Sample of Veterans Health Administration Patients Receiving Opioid Therapy

Characteristic	No. (%)		P Value
	Opioid Overdose Decedents (n = 750)	All Others (n = 154 684)	
Male sex	700 (93.3)	144 304 (93.3)	.96
Age, y			
18-29	31 (4.1)	3995 (2.6)	<.001
30-39	60 (8.0)	8407 (5.4)	
40-49	313 (41.7)	23 888 (15.4)	
50-59	297 (39.6)	50 216 (32.5)	
60-69	38 (5.1)	29 985 (19.4)	
≥70	11 (1.5)	38 183 (24.7)	
Race			
Black	52 (6.9)	25 409 (16.4)	<.001
White	625 (83.3)	110 965 (71.7)	
Other/missing	73 (9.7)	18 310 (11.8)	
Hispanic ethnicity	23 (3.1)	6342 (4.1)	.15
Pain-related diagnoses ^a			
Cancer	91 (12.1)	36 712 (23.7)	<.001
Chronic bodily pains	588 (78.4)	107 158 (69.3)	<.001
Headache	90 (12.0)	10 208 (6.6)	<.001
Neuropathy	32 (4.3)	8339 (5.4)	.17
Injuries and acute pain	222 (29.6)	29 522 (19.1)	<.001
Other diagnoses ^a			
Substance use disorders	296 (39.5)	15 195 (9.8)	<.001
Other psychiatric disorders	498 (66.4)	51 929 (33.6)	<.001
COPD, CVD, and sleep apnea	467 (62.3)	123 025 (79.5)	<.001

Abbreviations: COPD, chronic obstructive pulmonary disease; CVD, cardiovascular disease.

^aAll conditions were measured in the year up to and including the first opioid fill during the observation period and are not mutually exclusive.

U.S. Vietnam War Fatal Casualties vs. Fatal Opioid Overdoses

174,713

**Fatal Opioid* Overdoses
1999-2011**

58,220

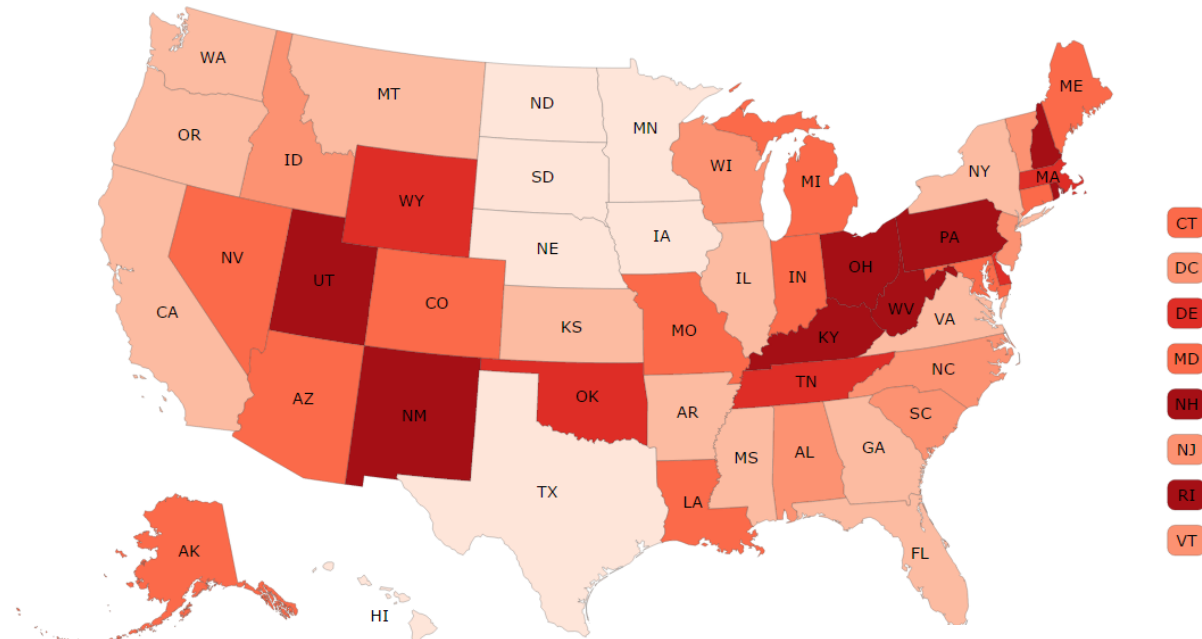
**U.S. Military in Vietnam
1956-1976**

*Includes prescription analgesics and heroin. Source: National Center for Health Statistics/CDC, National Vital Statistics Report, Final death data for each calendar year (June 2014)

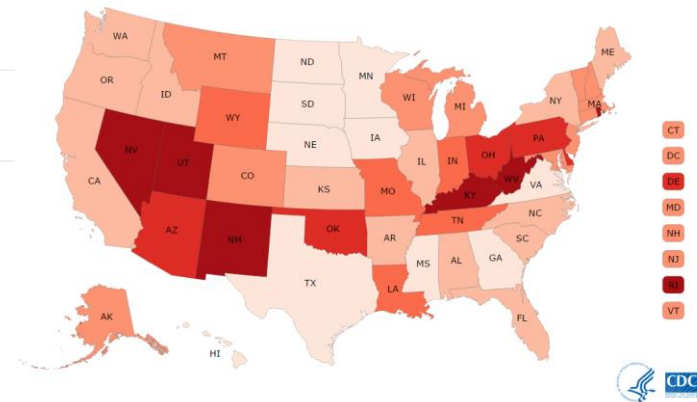
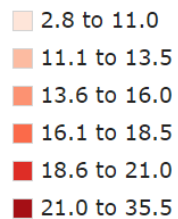
Citation for Vietnam War Deaths: U.S. National Archives. Statistical Information about Fatal Casualties of the Vietnam War. As of April 29, 2008.

CURRENT TRENDS: OPIOID EPIDEMIC

Number and age-adjusted rates of drug overdose deaths by state, US 2014



2014 Age-adjusted rate



2013

PSYCHIATRIC SYMPTOMS: OPIOID MISUSE AND DEPENDENCE

Loss of empathy

Dysphoria (withdrawal)
Hyper-excitability, Stress
Depression, Isolation

Binge and intoxication
Hedonic tone

Impaired immune, GI, CV
ANS, endocrine

Relapse
(negative reinforcement)
Stress-induced craving

Hyper or hypocortisolemia

Extended Reward Pathways (RewP) and Extended Limbic System (e.g. Regulation Pathway, RegP)				
Addiction	Reward Pathway	STRUCTURE	Extended Limbic	Toxic Stress
Loss of empathy	Evaluates affective value of stimulus	Cerebral Cortex Brain	Higher-ordered thinking	Irrational behavioral responses
		Cingulate Gyrus		
		Septal Area (SA)		
		Ventral Pallidum		
Dysphoria (withdrawal) Hyper-excitability Depression Stress Isolation		Extended Amygdala (EAm) Temporal Lobe	Emotional tone Fight-or-flight	Dysphoria Anger-reactivity Fear Hypervigilance Anxiety
		Bed Nucleus Stria Terminalis	Sociability	
		Hippocampus		
		Olfactory Cortex		
Binge and Intoxication Hedonic tone	motivation and action reward perception	Striatum Forebrain Nucleus Accumbens (NAc) Shell (sNAc) Core (cNAc)	Cognitive processing of aversion	Automated (destructive) behaviors
Impaired immune, gastrointestinal, endocrine and cardiovascular, CNS and ANS function	Maintain homeostasis	Hypothalamus Forebrain Other nuclei of the hypothalamus Paraventricular Nucleus (PaVN)	Maintain homeostasis	Impaired immune, gastrointestinal, endocrine and cardiovascular, CNS and ANS function
		Olfactory Bulb		
Dysregulated feeding, energy, arousal and metabolism		Thalamus		
Relapse (negative Reinforcement; stress-induced craving)	Positive reinforcement for survival	Ventral Tegmental Area Midbrain Nucleus Incertus	Positive reinforcement for survival	Negative Reinforcement (numb-out emotions)
		Pituitary Gland Brain (Base)	Regulate endocrine system	
		Brain – Corpus Distinction Autonomic Nervous System		
		Adrenal Cortex	Dampens inflammation by producing cortisol (CORT)	

Irrational behavioral responses

Dysphoria, anger-reactivity, fear
Hypervigilance, anxiety

Automated, destructive behaviors

Impaired immune, GI, CV,
ANS, endocrine

Negative reinforcement,
Numb-out emotions

Hyper or hypocortisolemia

“...physicians played a key role in starting the opioid epidemic...(we) now must do (our) part to end it...

...We have taken ownership of that...and being part of the solution.”

- Andrew Gurman, MD

AMA president June 2016

Modern Healthcare

The background is a blue gradient with decorative white circuit-like lines in the corners. These lines consist of straight segments and small circles, resembling a stylized electronic circuit or data paths.

THANK YOU.